AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph on page 12, line 12, as follows:

FIG. 4 is a side cross-sectional view of the flow device of FIG. 3A taken through the line 4-4 of FIG. 3C;

Please amend the paragraph on page 18, lines 1 – 19, as follows:

At the conclusion of the INCUBATE process, some of the infected target bacteria may not have lysed. Under these circumstances, many or even all of the progeny phage will still be held within host bacteria and as such may not be directly detectable. To address this potential problem, an optional process 21 and 25 LYSE BACTERIA is accomplished as shown in FIG. 1 by adding a microbial lysozyme 22 for the particular microorganism to the test sample at 21, which, in process 25, causes the cell walls of essentially all the particular microorganism, such as a bacterium, present in the test sample 24 to rupture, thereby releasing essentially all progeny phage contained therein. When necessary to distinguish the LYSE step from the natural or passive lysing caused by the bacteriophage, we will refer to it as "actively lysing" herein. The usage of the microbial, or more specifically, bacterial, lysozyme can shorten the time required to carry out the method taught herein because one need not wait for all of the target bacteria to lyse on their own. For slowly incubating phage, this can make a substantial difference. For the purposes of this invention, the term "actively lysing" shall refer to any material, apparatus, or process by which the microorganism host is induced to rupture, thus releasing the progeny phage into the test sample 26, including, but not limited to, chemical means such as traditional lysozymes, chloroform, or acid treatments or a physical process, such as changing the osmotic pressure.

Please amend the paragraph on page 21, line 31 – page 22, line 6, as follows:

As shown in FIG. 6, process 94 of the second embodiment 90, DISSOCIATE PHAGE, comprises adding a phage dissociation agent 92 to the test sample 93. The phage dissociation agent 92 breaks up the phage particles into their constituent components 97 including individual capsid proteins and viral nucleic acids. Examples of phage dissociation agents are acid treatments, urea, denaturing agents, and enzymes. Any suitable phage dissociation agent may be used. In this process, a dissociated bacteriophage substance 97 is produced.

Please amend the paragraph on page 30, lines 22 – 30, as follows:

FIG. 23 illustrates an exemplary assay [[331]] 320 according to the invention utilizing a bacteriophage genetically modified to express an enzyme. As shown in FIG. 23, an amount of genetically modified phage 322, preferably below the detection limit, is added 323 to a sample of host microorganisms 324, allowed to infect and incubate 325, to generate an enzyme 326. The bacteria may or may not lyse. A substrate 328 is added 327, which reacts 329 with the enzyme to produce an enzymatic product 330 or other enzymatic action, which is detected. This genetic modification can also offer alternative detection methods that are more easily performed, can proceed faster and/or be more sensitive, or allow a smaller amount of parent phage to be used.